

## **REMARKS**

Applicant would like to thank the Examiner for the careful consideration given the present application. The application has been carefully reviewed in light of the Office action, and amended as necessary to more clearly and particularly describe the subject matter which applicant regards as the invention.

Claim 1 has been amended to more clearly define the structural features of the invention, and particularly how the reinforcing member is received in the joint that is formed between the first and second frame members, and to more clearly define that the reinforcing member has a finite length (by defining the reinforcing member as having free ends). Further, claims 2 and 3 have been amended to define that the reinforcing member is an open ended pipe, and to specify that the foam resin is applied only at the joint so as to reinforce the joint and unify the reinforcing member with the first and second frame members in the vicinity of the joint. Claim 7, in which the reinforcing member is defined as a solid plate, has also been amended to define that the resin foam is only applied to the reinforcing member such that the subsequently foamed resin serves to secure the reinforcing plate to the first and second frame members in the vicinity of the joint. New claim 15 has been added, and defines the reinforcing member as being an extruded pipe having a series of grooves formed therein. The grooves serve to enhance attachment or connection between the foamed resin and the reinforcing member. It is respectfully submitted that the structure defined in the amended claims is not disclosed or suggested in the art of record.

Claims 1-3, 7, 11, and 12 have been rejected as being unpatentable over US

4,925,218 to Kunz in view of US 4,287,245 to Kikuchi. The Examiner's rejections are traversed for the following reasons.

Kunz is directed toward a double-walled pipeline system. In particular, Kunz teaches two half shells (22, 23) that are concentrically assembled as an outer layer to a pipe (10). After assembly, the two half shells (22, 23) are glued together to surround the pipe (10). This device prevents the escape of fluids if the pipe (10) develops a leak. More particularly, the two half shells define an outer pipe conduit, which serves to retain and transport fluids for later release. It is noted that Kunz is not related to a vehicle frame structure, and does not teach foamed resin in any way. It is initially noted, and will be discussed at length hereinafter, that filling the space between the two half shells and the pipe of Kunz would be contrary to use of the Kunz device as a "double-walled pipeline system" by preventing fluid flow within the two half shells. The Examiner admits that Kunz fails to teach a foamed resin disposed between a reinforcing member, the first and second frame members, and the plate as required by claim 1, and has cited Kikuchi as providing same.

Kikuchi relates to a heat insulator for pipes. Specifically, Kikuchi teaches that heat insulating units (A), which are formed in a semi-cylindrical shape, include a panel element (2) and an elastic sheet (3) that are covered by a thin metal plate (4).

The "length and thickness of the heat insulator depend on the diameter and length of the pipe line to be protected and on the temperature of the fluid passed therethrough" (Col. 4, lines 33-36). By using this arrangement, the insulating unit (A) can avoid wrinkling when temperature changes are encountered.

More specifically, Kikuchi teaches that "[e]ach heat insulting unit is preferably semi-cylindrical in shape so that a pair of them (A-1 and A'-1, A'2 and A'-2,; etc.) is

used as a minimum unit for the construction of the heat insulator of this invention". (Col. 4, lines 7-10). Pairs of heat insulating units are secured around the pipe so as to surround the pipe. Therefore, it is apparent that the foamed resin insulation of Kikuchi is made separate from the pipe and is thereafter secured to the pipe.

With reference to claim 1, neither Kunz nor Kikuchi teach or suggest "a reinforcing member received in both the first frame member and the second frame member, said reinforcing member extending through said joint and into said first frame member a first predetermined length so as to have a free end adjacent said joint and extending in said second frame member a second predetermined length so as to have another free end adjacent said joint". As both Kunz and Kikuchi are concerned with double-walled pipes, it is considered apparent that any such 'reinforcing member' (i.e., the inner pipe) taught by Kunz and Kikuchi would necessary extend beyond the vicinity of the joint so as to not have a free end, as required.

It is further noted that in the prior Amendment, applicant set forth arguments explaining why one skilled in the art would not be motivated to combine Kikuchi and Kunz in the manner advocated by the Examiner. These arguments remain valid, but for purposes of brevity will not be repeated hereinafter. It is merely noted that the Examiner has not satisfactorily responded to these arguments, but has merely concluded that it would have been obvious to combine the insulation of Kikuchi to the structure of Kunz 'to insulate the pipe', which is at odds with the purpose of Kunz. A more detailed analysis and explanation of *why* one skilled in the art would combine Kunz and Kikuchi in the manner proposed by the Examiner is respectfully requested. In the absence of some reasons, it must be concluded that there is no

motivation to combine the references.

With regard to claims 2 and 3, neither of the cited references teach or suggest that the reinforcing member is an open ended T-shaped pipe or L-shaped pipe, and wherein the unfoamed resin is applied only to the reinforcing member "such that the subsequently foamed resin secures the reinforcing member to the first and second frame members and thereby reinforces the first and second frame members only in a vicinity of the joint".

With regard to claim 7, neither of the cited references teach that the reinforcing member is formed as a solid plate. Further, neither reference teaches that the unfoamed resin is applied only to the reinforcing member "such that the subsequently foamed resin secures the reinforcing member to the first and second frame member and thereby reinforces the first and second frame members only in a vicinity of the joint", as required.

With regard to claim 11, neither of the cited references teach or suggest:

"second frame member having an end portion connected to one of the first and second sidewalls of the first frame member, and wherein said **one of said first and second sidewalls of the first frame member has a hole formed therein**; and,

wherein said hole is larger than a cross-sectional dimension of said reinforcing member such that said reinforcing member may freely extend through the hole in the first frame member, and **whereby an annular space surrounding said reinforcing member and said one of said first and second sidewalls of said first frame member at said hole being filled with said foamed resin**" (emphasis added)

In this regard it is noted that the Kunz structure is monolithic, and cannot be interpreted as providing the required hole in the sidewall. It is further noted that neither Kunz nor Kikuchi teach an annular space surrounding the reinforcing member at the hole is filled with foam resin. In this regard it is noted that Kikuchi is only concerned with straight pipe, and does not teach any joint structure.

For the foregoing reasons, reconsideration and withdrawal of the rejections of claims 1-3, 7, 11, and 12 is requested.

Claims 4, 8-10, 13 and 14 stand rejected as being unpatentable over Kunz and Kikuchi in view of US 3,948,247 to Heilemann. It is respectfully submitted that Heilemann does not correct the deficiencies of the Kunz and Kikuchi references as they relate to claim 1. For this reason alone, claims 4, 8-9, and 14 are allowable over this proposed combination of references.

New claim 15 has been added and defines the reinforcing member as an extruded open-ended tubular structure having a series of external grooves formed thereon. The grooves serve to receive foamed resin and thereby connect the foamed resin to the reinforcing member. The foamed resin secures the reinforcing member to the first and second frame members and thereby reinforces the first and second frame members only in a vicinity of the joint. It is submitted that providing grooves on the outer surface of the reinforcing member provides an advantage in mechanical attachment or engagement between the reinforcing member, the foamed resin, and the frame members. The cited art has no such structure and is not particularly relevant to the structure defined in claim 15. Favorable consideration of new claims 15-16 is requested.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please

charge same to our Deposit Account No. 18-0160, our Order No. SHM-14986.

Respectfully submitted,

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